



## Closing

*Moderator: Del Huntington, Oregon DOT*

-  **Paper** 24A. Dumb Access Management Tricks and How to Avoid Them  
*Gary Sokolow, Florida DOT*
-  **Slides**
-  **Other** 24B. Access Jeopardy  
*Host: Dane Ismart, Louis Berger & Associates*  
*The Challenge between Academia, Consultants and Government*  
*Tribunal: Bud Koepke S/K Transportation Consultants*  
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*Phil Demosthenes, Colorado DOT*
-  **Other** 24C. Introduction of the New Access Management Committee Chair  
*Ron Giguere/Art Eisdorfer*  
*Introduction of 5th National Access Management Conference in Austin, Texas*  
*Eddie Schafie, Earth Technology Transportation Group*
-  **Paper** Attendee List

# Abstract

## **Dumb Access Management Tricks, and How to Avoid Them**

*Note: This paper contains personal observations. It is the author's opinions and not necessarily the opinions of the Florida Department of Transportation.*

Access Management, as a practice, has been around for many years. From the start it held much promise for improving safety and operations. Over the years we have tried to institute good Access Management practices but we have learned some lessons along the way. We have learned how to do lots of things that have a positive impact, but we have also begun to learn that some of the access management techniques may have negative impacts when used inappropriately. This paper will show what we have learned about a few techniques which, if we don't use wisely, can be called, "**Dumb Access Management Tricks**". We may make some of these mistakes when doing the following:

- \$ **Frontage roads**
- \$ **Over abundant right turn lanes**
- \$ **Continuous right turn lanes**
- \$ **Too narrow driveways**
- \$ **Trying to control left turns without a median**

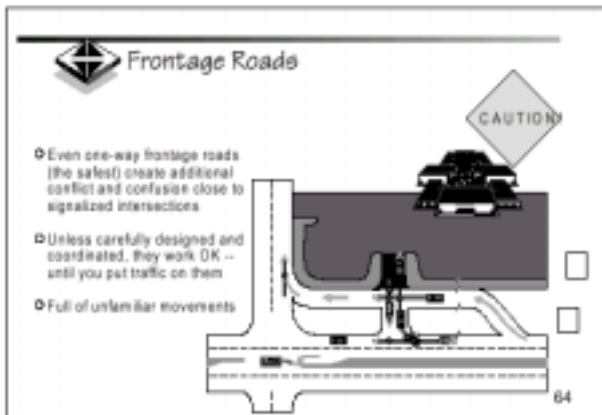
This paper also gives strategies that can help you avoid some of the common mistakes in access management.

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# Dumb Access Management Tricks, and How to Avoid Them



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Access Management is the process that provides for and manages access to land

development while preserving the flow of traffic on the surrounding roads. Access management also enhances safety, smoother operations, and roadway capacity. It involves the design and placement of driveways, medians, median openings, and provisions for turning movements and pedestrians.

Access Management, as a practice, has been around for many years. From the start it held much promise for improving safety and operations. Over the years we have tried to institute good Access Management practices but we have learned some lessons along the way. We have learned many actions have a positive impact, but we have also begun to learn that some of the access management techniques may have negative impacts when used inappropriately. This paper shows what we have learned about a few techniques which, if we do not use wisely, can be called, "**Dumb Access Management Tricks**". We may make some of these mistakes when doing the following:

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## Frontage roads

When the idea of frontage roads along arterials was first introduced, much excitement was generated. This was a way many highway engineers believed would increase speed on the major road and still provide access to growing properties along the major corridors. Soon after the construction of many of these frontage roads, we saw problems. These problems arose where they were most worrisome, at the major intersections. When the frontage road reaches the major cross streets, its weakness becomes apparent. If the frontage road is one-way (the safest),

movements at that intersection become confusing. This is not only true of the driver at the frontage road's end, but for the driver just getting through the intersection. And what happens when both intersecting arterials have frontage roads? It is clear that the intersecting movements become confusing and inefficient, even when the frontage road is one-way.

Some planners and engineers believe these problems can be avoided by "flaring" the terminus of the frontage road 150' to 250'. This could help, (see below) but we usually do not have enough right of way to build this sort of design.

### **How to avoid this mistake**

There are several ways that this mistake can be avoided.

**Flaring at intersections** As mentioned previously, the designer could prevent problems by "flaring" the terminus of the frontage roads. But, the standard 150' to 250' called for in the literature is often pretty "short" to get the frontage road drivers from infringing on the side street's queue and functional area. Take a look at your own municipality's driveway separation standards. You probably don't even meet these simple standards for separation. Recognize that a frontage road intersection is not a simple driveway, it is a major connection.

If the designer is going to flare your frontage road, do enough analysis to assure the design and placement are done in a way to give drivers entering or leaving the major intersection, a chance to prepare for this important movement. Be especially wary of the drivers making right turn at an intersection, not knowing that there are other right turners in their path.

**Limiting Turns** - One way to retrofit frontage roads is to limit turns at the intersections, both on the main street and along the frontage roads. Right turns could be prohibited from the main arterial and left turns from the frontage road. Slip ramps would be provided to get the vehicle from one road to the other.

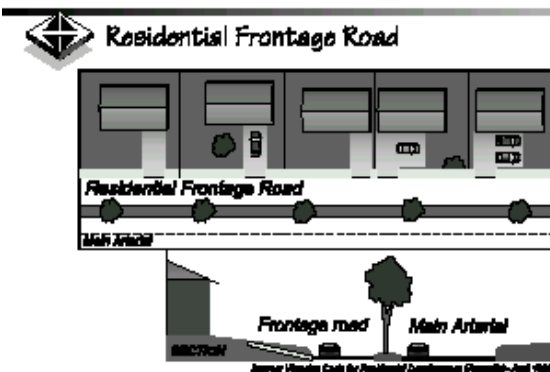
**Service Roads** - Many of the assumed benefits of frontage roads can be realized more simply with the use of what can be called service roads. They can take many forms, but they all serve the purpose of combining traffic from multiple developments and placing the access points in such a way to maximize safety and operations. They can take the form of a backage road, which goes behind corridor development. They can also be interconnected parking lots, and shared common collector roads serving multiple developments.

**Backage roads** - One way to assure reasonable separation for frontage roads is to build a "backage" road instead. These are usually located behind the businesses along a corridor. If they are suitably designed, they will serve commercial development on both sides. By placing this backage road behind the development, one automatically gets a large separation between the service road terminus and the major intersection.

**Interconnected internal circulation** - Requiring that neighboring developments (including residential) to connect parking and internal circulation areas is one of the best practices site planners can institute. These interconnections should be designed to operate like collector roads, but it is not always necessary to have them be more than informal connections between parking lots.

**Shared public access** - Another way to connect access to developments is the shared public access or collector road. During the development review process, land between developments are used to develop shared collector roads. They should be designed to public road standards and then given to the local government to be maintained. At first it may be just 2 developments served, but in time these short roadways can be the start of a complete system of supporting roadways.

**Mid Block Frontage Roads are OK** - Does this mean all frontage roads are bad? No, if they are mid-block, they can serve a good function. These mid-block frontage roads can serve residential, small office, and if adequately designed some medium sized commercial developments.



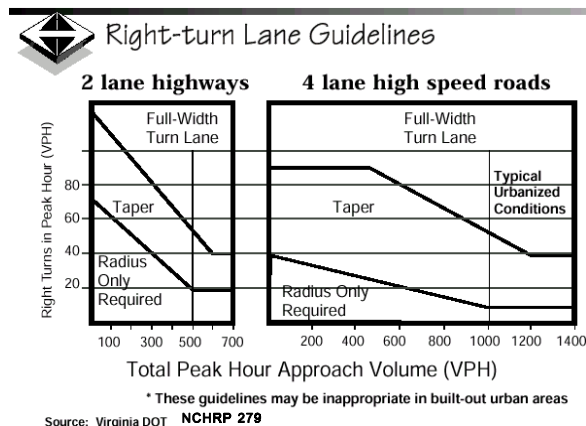
### Overabundant right turn lanes

Right turn lanes at driveways have long been recognized as a good access management technique. However, national and Florida criteria for when they are needed have not been reviewed for many years until recently. Also, a cursory

look at where they are built, and compare them to the next major road show that we are building right turn lanes in lower right turn volume conditions as compared to major intersections.

Criteria developed primarily for high speed rural conditions (see NCHRP #279 Intersection

Channelization Design Guide - Figures 4-22 and 4-23) have been incorrectly used to over-require exclusive right turn lanes in urban, lower speed conditions.



By building too many right turn lanes in urban locations we run the risk of some negative impacts. They are:

\$ Pedestrians that have longer distances to cross streets

- \$ Drainage problems from too much impervious surface.
- \$ creating a wider road feel in our urban settings where we may be trying to create a more constrained roadway environment.
- \$ Roadway aesthetics and pedestrian environment is compromised

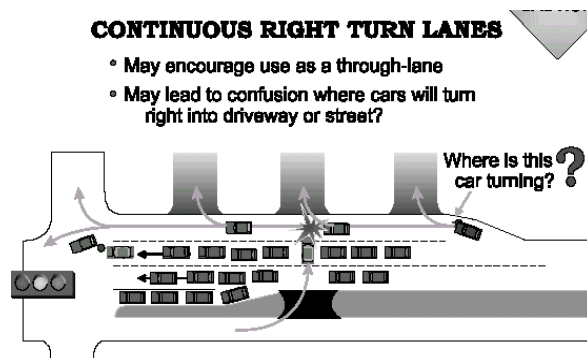
### How to avoid mistakes

Florida DOT has recently undertaken the task of re-evaluating the requirements for right turn lanes. We had been previously been suggesting 40 right turns per hour as the criteria but we may now go as high as 110 along our typical urban multi-lane arterial.

### Continuous right Turn Lanes

Continuous right turn lanes have caused a number of problems on our highways. They have all the problems associated with individual right turn lanes but also have some additional problems. Some drivers will use them as through lanes. Also, vehicles can get hit by vehicles traveling in them due to confusion of where they turn. Another problem happens behind busy signalized intersections where queues develop. A left turn into a property is allowed by "good Samaritans" to enter and then blind sided by a free flowing vehicle in the continuous right turn lane.

### How to avoid this mistake



**Break them up** - One way to help situations where continuous right turn lanes exist is to "break them up". This can be done as simply as striping. Landscaping and Brick pavers can also be used for this purpose. The advantage of brick pavers is that the car can run over these and will not cause an accident, but it is a firm reminder that the driver is not in a through lane.

### Acceleration lanes

Acceleration lanes serving major driveways has been a standard access management practice in the past. Over time though, these have been shown to do little more than add pavement that is not needed. Observations show that most right turn vehicles when offered the acceleration lane really use very little of it and immediately enter the through lanes. Fortunately, this practice has not been very popular recently.

### Limiting commercial access on side streets where residential neighborhoods are

One inappropriate use of access control is limiting commercial driveways on certain residential streets. Many local governments prohibit commercial driveways on side streets to major arterials if those side streets eventually serve residential neighborhoods. The reason here is that absence of commercial driveways would discourage commercial traffic on the residential street.

There are a number of disadvantages to this practice, not the least of which is the inconvenience

to those people living in the neighborhoods to use the commercial centers they are so close to. The effect of limiting access along the side street is to place greater conflicts along the major arterial and many of these conflicts are fairly close to the side street making trips to and from the neighborhoods more dangerous. Look at your local ordinances and see if this provision is in there. Providing access along a residential side street does not allow or require commercialization down that side street but provides safe and convenient access for both the neighbors and customers of the commercial areas along the major roads.

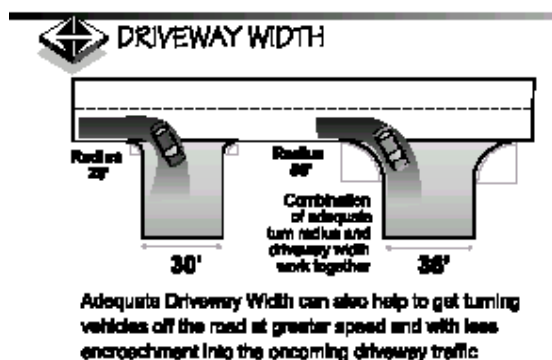
### **Apork chop® driveways where there are no medians**

Another practice to be avoided is the use of driveway channelization to prevent left hand turns where there are no medians in place along the major roadway. These driveway channelization features often called Apork chops® are a useful Amessage® to the driver where medians are in place to prevent left hand turns. But, where these features are added, to try and prevent left hand turns by themselves, they are usually failures. Observations of many of these show very little compliance to their intended purpose. They, may in fact, prevent vehicles from quickly entering the driveway thereby causing more problems. If the traffic professional really wants to control left turns, the best way to do it is through the use of restrictive medians. Where median space is not available, the traffic engineer can consider flexible traffic posts in the main road to discourage left turns.

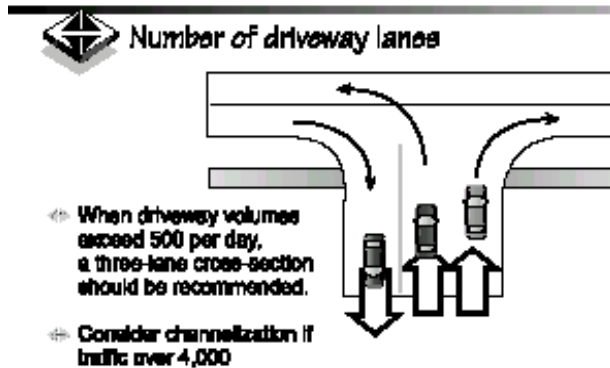
### **Too narrow driveways**

Some local governments have tried to manage access by having very narrow driveway requirements. In the past, we allowed Awide open® frontages where vehicles were allowed in and out along entire frontage of a property. These wide open frontages are a problem because of driver expectancy(not knowing where a vehicle will enter or exit). But a too narrow driveway will also cause problems due to vehicles slowing and stopping in the through lanes in order to turn right into the driveway

Narrow driveways may work with very low traffic (less than five vehicles per hour) but, wherever there is the probability of a vehicle leaving and entering at the same time, the driveway should be wide enough driveway for this maneuver. Safe and efficient driveway movements can be realized through the use of well designed driveways where exclusive right turn lanes (used appropriately) and the curb turning radius allows safe and efficient movement in and out of the driveway.



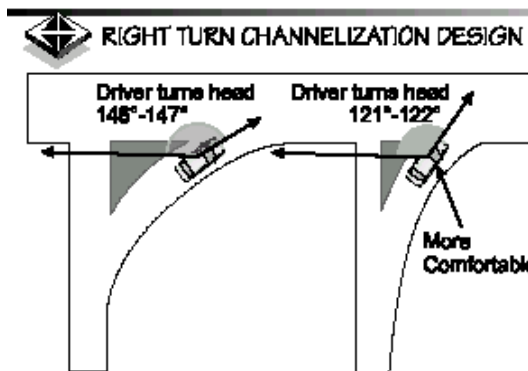
In addition to providing enough width and curb radius for vehicles turning in and out simultaneously, where there are over 500 vehicles per day expected to use this driveway, and left turns are allowed from it, the designer should provide for a separate left hand turn lane outbound, so the right turns do not get excessively backed up at the driveway.



### Over channelization

Channelization at the driveway is usually desirable allowing different movements to have their own space and providing a visual cue of the appropriate direction and speed. But too much channelization can cause problems. If the channelization islands are too small, then they become hazards to vehicles and pedestrians. Over channelization can also happen when we treat arterials too much like freeways and we have entering traffic from a

driveway or side street use an excessively channelized acceleration lane causing the drivers head to turn too much to the left uncomfortably to see the oncoming traffic. A slip ramp rather than acceleration ramp or lane might be more appropriate and is more comfortable to the driver of the entering vehicle.



### Restricting right turn in-out driveways too much

If an arterial has restrictive medians and well placed median openings, it is possible to allow more driveways with right-in and right-out movements.

There are some advantages to this. Not only is this a convenience to the driver, but if we over restrict the placement of right turn access drives, then these vehicles may get added to those left turn vehicles at the major driveways and side streets causing long queues, frustration, and pressure to perform unsafe maneuvers. For major commercial developments, if they have sufficient left turn controls through medians, the engineer should consider well placed and restricted right turn in and out driveways.



Obviously, there are many more Adumb tricks®, but almost all of them can be avoided by careful planning and sensitive retrofit activities in access management. Remember that the dumbest trick of all is not to institute access management because you will be missing some important safety and operational benefits.